ABSTRACT

A hydrotalcite-like substance that is capable of ion exchange with target anions, being of small crystal size and that exhibits large basal spacing, excelling in anion exchange performance; a process for producing the same; and a method of immobilizing hazardous substances. A hydrotalcite-like substance is produced by mixing an acidic solution containing aluminum ions and magnesium ions with an alkaline solution containing an alkali to thereby synthesize a hydrotalcite-like substance, followed by, without ageing, water removal or neutralization. The molar ratio of aluminum ions and magnesium ions is preferably in the range of 1:5 to 1:2. Hazardous substances can be immobilized by pulverizing the hydrotalcite-like substance after synthesis and adding the powder to a subject, or adding a hydrotalcite-like substance in slurry form to a subject, or carrying out addition so as to cause the synthesis directly at the position of the subject. Furthermore, anion adsorption can be performed by a filter containing the hydrotalcite-like substance.